



DOCKET NO: 240987US3

IN THE UNITED STATES PATENT & TRADEMARK OFFICE

RE APPLICATION OF

KENJI YAMADA, ET AL.

SERIAL NO: 10/629,654

FILED: JULY 30, 2003

FOR: SHEET FINISHER AND IMAGE
FORMING SYSTEM USING THE SAME

:

: EXAMINER: EICKHOLT, E. H.

:

: GROUP ART UNIT: 2854

:

AMENDMENT UNDER 37 C.F.R. § 1.312

*Please
enter in part
R.Y.*

COMMISSIONER FOR PATENTS
ALEXANDRIA, VIRGINIA 22313

SIR:

In response to the Notice of Allowance dated February 1, 2005, please amend the
application as follows:

Amendments to the Claims are reflected in the listing of claims which begins on
page 2 of this paper.

Remarks begin on page 49 of this paper.

wherein said drive means causes said reinforce roller to move along said guide member.

Do not
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claim 50.
R.Y.

Claim 50 (Currently Amended): A sheet finisher for folding a stack of sheets each carrying an image formed thereon, said sheet finisher comprising:

a fold roller pair configured to fold the stack of sheets being conveyed via a nip thereof;

a reinforce roller configured to reinforce a fold of the stack of sheets folded by said fold roller pair between said reinforce roller and a guide plate;

drive means for moving said reinforce roller in a direction perpendicular to a direction of sheet conveyance;

monitoring means for monitoring a movement of said reinforce roller; and

control means for causing, when an error is detected during movement of said reinforce roller, said reinforce roller to move to a home position and causing display means to display a jam message.

Claim 51 (Original): The finisher as claimed in claim 50, wherein said monitoring means comprises:

first sensing means for sensing the home position of said reinforce roller; and

second sensing means for sensing an end-of-reinforcement position where said reinforce roller ends pressing the fold.

Claim 52 (Original): The finisher as claimed in claim 50, wherein when said reinforce roller fails to return to the home position within a preselected period of time, said control means determines that said reinforce roller is fully locked and unable to return and

that and error unable to be dealt with by a user has occurred, while causing said display means to display an error message.

Claim 53 (Original): The finisher as claimed in claim 50, wherein when the error has occurred, said control means inhibits said reinforce roller from pressing a following stack of sheets.

Do not enter claim 54 R.Y.
Claim 54 (Currently Amended): An image forming system comprising:
an image forming apparatus comprising image forming means for forming an image on a sheet in accordance with input image data and sheet feeding means for feeding sheets to said image forming means one by one; and

a sheet finisher configured to fold a stack of sheets sequentially transferred from said image forming apparatus;

said sheet finisher comprising:

a fold roller pair configured to fold the stack of sheets being conveyed via a nip thereof;

a reinforce roller configured to reinforce a fold of the stack of sheets folded by said fold roller pair between said reinforce roller and a guide plate;

drive means for moving said reinforce roller in a direction perpendicular to a direction of sheet conveyance;

monitoring means for monitoring a movement of said reinforce roller; and

control means for causing, when an error is detected during movement of said reinforce roller, said reinforce roller to move to a home position and causing display means to display a jam message.

Claim 55 (Original): The system as claimed in claim 54, wherein said display means is included in said image forming apparatus.

Claim 56 (Original): A sheet finisher for folding a stack of sheets each carrying an image formed thereon, said sheet finisher comprising:

a fold roller pair configured to fold the stack of sheets being conveyed via a nip thereof;

a reinforce roller configured to reinforce a fold of the stack of sheets folded by said fold roller pair between said reinforce roller and a guide plate; and

drive means for moving said reinforce roller in a direction perpendicular to a direction of sheet conveyance;

wherein said drive means causes a moving speed of said reinforce roller to vary from a time when said reinforce roller contacts the stack to a time when said reinforce roller does not contact said stack.

Claim 57 (Original): The finisher as claimed in claim 56, wherein said drive means causes said reinforce roller to move at a lower speed when getting on the stack than when rolling on said stack.

Claim 58 (Original): The finisher as claimed in claim 57, wherein said drive means increases the moving speed of said reinforce roller to a preselected speed after said reinforce roller has got on the stack.

Claim 59 (Currently Amended): The finisher as claimed in claim 56, wherein assuming that said reinforce roller moves at a speed V_1 before getting on the stack, at a speed

DO not
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claim 59.
R.Y.

V2 when getting on said stack, at a speed V3 before coming down from said stack, at a speed V4 when coming down from said stack and at a speed V6 after coming down from said stack, then said drive means satisfies:

$$V1 \geq V2$$

$$V6 \geq V4$$

$$V3 > V2, V4,$$

Claim 60 (Original): The finisher as claimed in claim 56, wherein said drive means causes said reinforce roller to move at a higher speed when the stack is absent than when said stack is present.

Claim 61 (Original): An image forming system comprising:

an image forming apparatus comprising image forming means for forming an image on a sheet in accordance with input image data and sheet feeding means for feeding sheets to said image forming means one by one; and

a sheet finisher configured to fold a stack of sheets sequentially transferred from said image forming apparatus;

said sheet finisher comprising:

a fold roller pair configured to fold the stack of sheets being conveyed via a nip thereof;

a reinforce roller configured to reinforce a fold of the stack of sheets folded by said fold roller pair between said reinforce roller and a guide plate; and

drive means for moving said reinforce roller in a direction perpendicular to a direction of sheet conveyance;